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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,948	09/12/2003	Jesse Meyer	T-5979	7015

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EXAMINER

THEXTON, MATTHEW

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 02/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/660,948

Applicant(s)

MEYER ET AL.

Examiner

Matthew A. Thexton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>three sheets</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Information Disclosure Statement

The IDSs submitted 2004 March 25 and 2005 November 7. has(have) been considered.

Duplicate citation(s) has(have) been lined through, retaining the earliest filed citation(s). Document WO 03/020822A2 has been lined through because it is not in English, however patent family member US 2004/0171759A1 has been considered and cited on form USPTO-892.

Drawings

The five figures on five sheets are accepted.

Applicant is requested to indicate a preference for front page publication, should that eventuality occur.

Specification

The disclosure is objected to because of the following informalities: The product amounts for example 2 do not include the basis for the percentages.

Appropriate correction is required.

The abstract of the disclosure is objected to because the neutralization step described does not reflect claim 1. Further, the inventions of claim 24-27 are not described. Correction is required. See MPEP § 608.01(b).

Claims Version

The listing of claims as originally filed has been examined.

Claims Analysis

Claim 1 is directed to processes of making polyalkenyl sulfonic acid comprising:

- (a) reacting a polyalkene with SO₃ in a first reaction vessel; and
- (b) stabilizing the product of (a) by neutralizing as it exits the vessel and
prior to or concurrently with entering a second vessel;

wherein neutralization occurs in the absence of ammonia or NaOH.

Claims 2-23 depend directly or indirectly from claim 1 and specify or further limit:
the type of neutralizing agent; amount of sulfones in product from (b); the type of
polyalkenyl; the amount of fragmentation in the product from (b); employing carboxylic
acid in step (a); the type of carboxylic acid; diluting the polyalkene prior to step (a);
overbasing the product of step (b) with an alkaline earth metal basic salt; employing
water as a promoter; the amount of water; the overbasing temperature range; the
overbasing pressure range.

Independent claim 24 is directed to processes of overbasing polyalkenyl sulfonic
acid comprising:

- (a) overbasing with an alkaline earth metal basic salt;

wherein water is used as a promoter.

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Claims 25-27 depend directly or indirectly from claim 24 and specify or further limit: the amount of water; the overbasing temperature range; the overbasing pressure range.

Claim Objections

Claim 5 is objected to because of the following informalities: In line 3, "alkylvinylidene" is misspelled. Appropriate correction is required.

35 USC § 102 and 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections

Claim 24 is rejected under 35 U.S.C. 102(b) as being anticipated by Harrison et al. (WO 01/70830A2).

The present claims are broadly discussed hereinabove in the section ***Claims Analysis*** which is incorporated by reference.

Examples 7 and 8 employ water promoter for the overbasing.

Claims 25 –27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrison et al. (WO 01/70830A2) as applied to claim 24 above, and further in view of disclosures of '830.

The reference '830 discloses (examples 3, 7-9, 15, and 16) processes of making calcium polyisobutene sulfonate employing GLISSOPAL 550 starting material comprising: sulfonating the polymer, and in the same vessel then neutralizing with calcium hydroxide, yielding a neutral or LOB product. Examples 7 and 8 employ about 15 weight % of water based on the sulfonated polymer. It would have been obvious to one of ordinary skill in the art at the time of the invention to employ more or less of a "promoter" since it's use and effect are disclosed without any particular emphasis of

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criticality and thus one would vary the amount from the examples with a reasonable expectation of success. '830 relies upon US 3496105 for overbasing reaction conditions, wherein higher temperatures (column 7, lines 1-9) and superatmospheric conditions (column 9, lines 28-33) are disclosed, as required by Applicant's claims 26 and 27. It would have been obvious to one of ordinary skill in the art at the time of the invention to follow the plain suggestion to vary these parameters.

Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrison et al. (WO 01/70830A2).

The present claims are broadly discussed hereinabove in the section ***Claims Analysis*** which is incorporated by reference.

The reference '830 discloses (example 14) processes of making calcium polyisobutene sulfonate employing GLISSOPAL 550 starting material comprising: sulfonating the polymer, transferring the product to another vessel and then neutralizing with calcium hydroxide, yielding a LOB product. The reference '830 discloses (examples 3, 7-9, 15, and 16) processes of making calcium polyisobutene sulfonate employing GLISSOPAL 550 starting material comprising: sulfonating the polymer, and in the same vessel then neutralizing with calcium hydroxide, yielding a neutral or LOB product. Aspects of the dependent claims 2, 4-11, 13-21 are disclosed or exemplified. '830 relies upon US 3496105 for overbasing reaction conditions, wherein higher temperatures (column 7, lines 1-9) and superatmospheric conditions (column 9, lines

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28-33) are disclosed, as required by Applicant's claims 22 and 23. It would have been obvious to one of ordinary skill in the art at the time of the invention to follow the plain suggestion to vary these parameters. The properties of claims 3 and 12 would be inherent to the practice of the processes of '830. '830 does not disclose neutralizing "as the product of step (a) exits the first reaction vessel and prior to or concurrently with entering a second vessel for further reaction or storage...."

Given that '830 discloses that neutralization may occur in the same vessel or in another vessel, it would have been obvious to one of ordinary skill in the art at the time of the invention to have performed the neutralization "prior to or concurrently with entering a second vessel" as a matter of ordinary efficiency.

Citation of Pertinent Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lange et al. (US 2004/0171759A1), which corresponds to WO 03/020822A2 which was cited by Applicant, is cited to complete the record.

Rolfes et al. (US 6015778A) is cited to further show the state of the art.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew A. Thexton whose telephone number is 571-272-1125. The examiner can normally be reached on Tuesday-Friday, 9:30 to 7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasudevan S. Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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